APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,528	10/18/2001	Andrew William Mackie	2639/A36	7291

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EXAMINER
JACKSON, JAKIEDA R

ART UNIT	PAPER NUMBER
2626	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 January 2007*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *3-9* is/are allowed.

6)☒ Claim(s) *1,2 and 10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   In response to the Office Action mailed October 30, 2006, applicant submitted an

amendment filed on January 16, 2007, in which the applicant traversed and requested

reconsideration with respect to **claim 1**.

Response to Arguments

2.   Applicants argue that Hamamura does not appear to segment compound words

but rather recognizes words each separated by space. Also, Applicants argue that

there is no discussion of segmenting the words into linkable components. Applicant

arguments are persuasive, but are moot in view of new grounds of rejection.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   **Claims 1 and 2** are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. In particular, Applicants claim a method for

segmenting compound words in an unrestricted natural-language input, the method

comprising returning a segmented string consisting of a plurality of linkable components

spanning the natural-language input, wherein the segmented string is *interpretable* as

a compound word. It is not clear as to how a segmented word can be interpreted as a

compound word. For example, the compound word "catwalk", when segmented, would

be "cat walk". One would not interpret the segmented string to construe the compound

word. Therefore, the claim language is vague and indefinite.

Claim Rejections - 35 USC § 103

5.　　The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.　　**Claims 1-2 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Carcus et al. (USPN 5,794,177), hereinafter referenced as Carcus in view of

Hamamura (USPN 6,847,734).

Regarding **claim 1**, Carcus discloses a method for segmenting compound words

in an unrestricted natural-language input, the method comprising:

receiving a natural-language input consisting of a plurality of characters (column

9, lines 29-49);

identifying a plurality of linkable components by traversal of substrings of the

natural-language input delimited by the set of probabilistic breakpoints (column 9, lines

29-49); and

returning a segmented string consisting of a plurality of linkable components

spanning the natural-language input, wherein the segmented string is interpretable as a

compound word (column 9, lines 29-49), but does not specifically teach constructing a

set of probabilistic breakpoints in the natural-language input based on probabilistic

breakpoint analysis.

Hamamura teaches a method comprising constructing a set of probabilistic

breakpoints in the natural-language input based on probabilistic breakpoint analysis

(column 14, lines 32-45), to obtain an evaluation function.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Carcus' method wherein it comprises

constructing a set of probabilistic breakpoints in the natural-language input based on

probabilistic breakpoint analysis, as taught by Hamamura, to consider the ambiguity of

word delimiting, the absence of character spacing, noise entry, and the ambiguity of

character delimiting (column 2, lines 4-7).

Regarding claim 2, Carcus discloses a method further including the step of

analyzing a chart of the linkable components in the case that the segmented string

cannot be constructed and returning an unsegmented string interpretable as a partial

analysis of a compound word (column 9, lines 29-49).

Regarding claim 10, Carcus discloses a method for segmenting compound

words, but does not specifically teach wherein the traversal of substrings is performed in

an order determined by probabilities obtained in the probabilistic breakpoint analysis.

Hamamura discloses a method wherein the traversal of substrings is performed in an order determined by probabilities obtained in the probabilistic breakpoint analysis (column 9, lines 1-14), to actually produce the written character string.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Carcus' method wherein the traversal of substrings is performed in an order determined by probabilities obtained in the probabilistic breakpoint analysis, as taught by Hamamura, to consider the ambiguity of word delimiting, the absence of character spacing, noise entry, and the ambiguity of character delimiting (column 2, lines 4-7).

Allowable Subject Matter

7.   The following is a statement of reasons for allowance:

As for independent claim 3, it recites an apparatus for segmenting compound words in a natural-language input. Prior art such as Franz show a similar configuration but fails to teach the recited configuration wherein a probabilistic breakpoint analyzer is coupled to the startpoint probability matrix, the endpoint probability matrix and the natural-language input, the probabilistic breakpoint analyzer being operative to generate a breakpoint-annotated input from the natural-language input.

Dependent claims 4-9 are allowed because they further limit their parent claims.

Conclusion

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R. Jackson whose telephone number is 571.272.7619. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571.272.7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRJ
February 1, 2007

DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
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